AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently Amended) An engine system, comprising:

a) ~~at least~~ a first transfer volumetric device fed from a compressor or from a turbocompressor, for sequentially transferring controlled volumes of a compressed fluid such that the pressure of said compressed fluid introduced to and exiting said first volumetric device is substantially equal; ~~, and a~~

b) at least one second volumetric device ~~in which said second volumetric device is~~ larger in volume than said first volumetric device[[,]] ; and

c) a combustor for providing continuous combustion, said combustor being disposed between said first volumetric device and said at least one second volumetric device, such that each of said second volumetric devices receives heated fluid from a corresponding combustor,

wherein said first transfer volumetric device is operable to prevent backflow of said heated fluid; ~~in which~~

wherein, during continuous flow of ~~a compressible~~ said compressed fluid from said first volumetric device to each of said at least one second volumetric devices, work is performed.

2. (Currently Amended) The engine system according to claim 1, further comprising a turbine driven by the fluid discharged from each of the second volumetric devices.

3. (Currently Amended) The engine system according to claim 1, ~~which comprises~~ further comprising:

~~a) a first volumetric device;~~

~~b)~~ means for feeding ~~a compressible~~ the compressed fluid to said first volumetric device via ~~the~~ a corresponding independent flow path, each flow path beginning with a separate intake conduit leading to said first volumetric device and ending with a separate discharge conduit coming from an outlet of the corresponding second volumetric device, wherein the corresponding second volumetric device receives the heated fluid from the corresponding combustor via the corresponding separate flow path;

~~c) a heat source for each independent flow path;~~

~~d)~~ means for driving said first volumetric device for sequentially transferring controlled volumes of said fluid to the corresponding ~~heat source~~ combustor by positive displacement cycles;

~~e) a second volumetric device for receiving heated controlled volumes of said fluid from the corresponding heat source via the corresponding independent flow path;~~

~~f)~~ means for driving said at least one second volumetric device for sequentially discharging said heated ~~controlled volumes of said~~ fluid by positive displacement cycles; and

~~g)~~ means for synchronizing said means for driving said first ~~and~~ volumetric device and said at least one second volumetric device.

4. (Currently Amended) The engine system according to claim 3, wherein the means for synchronizing the means for driving the first and the at least one second volumetric devices comprise a common shaft supporting said first and at least one second volumetric devices for rotation.

5. (Canceled)

6. (Currently Amended) The engine system according to claim 2, wherein the discharge of ~~the~~ a second volumetric device is the inlet of the turbine.

7. (Currently Amended) The engine system according to claim ~~3~~ 1, wherein ~~the heat sources are combustors~~ each combustor is fed with a fuel, which ~~receive~~ when burnt causes the controlled volumes of fluid to be heated and ~~cause said fuel to burn, thereby heating and expanding said fluid~~ expanded.

8. (Currently Amended) The engine system according to claim 3, wherein the first and at least one second volumetric ~~devices~~ device are keyed to ~~the same~~ a common main shaft.

9. (Currently Amended) The engine system according to claim 8, ~~comprising a~~ wherein the compressor is keyed to the main shaft.

10. (Currently Amended) The engine system according to claim 8, further comprising a turbine keyed to the main shaft.

11. (Currently Amended) The engine system according to claim ~~1~~ 3, wherein the ~~compressible~~ compressed fluid is air.

12. (Canceled)

13. (Previously Presented) The engine system according to claim 3, wherein the positive displacement cycle is effected by means of apparatus selected from the group consisting of rotors provided with lobes, Wankel mechanism, reciprocating piston systems, or any common or specially designed volumetric mechanism.

14. (Canceled)

15. (Currently Amended) The engine system according to claim ~~14, further comprising at least one~~ 3, wherein the means for feeding the compressed fluid to said first volumetric device via a corresponding independent flow path is a turbocharger.

16. (Previously Presented) The engine system according to claim 3, further comprising at least one stage of intercoolers.

17. (Previously Presented) The engine system according to claim 3, comprising two independent shafts to one of which are keyed the volumetric devices, a load being coupled to the other shaft.

18. (Previously Presented) The engine system according to claim 17, further comprising a clutch for engaging and disengaging the two independent shafts, depending on a magnitude of the load.

19. (Previously Presented) The engine system according to claim 15, further comprising a secondary heater.

20. (Previously Presented) The engine system according to claim 14, further comprising a second compressor and a first stage intercooler for cooling the discharge flowing from the first compressor to said second compressor.

21. (Previously Presented) The engine system according to claim 20, further comprising a turbocharger and a second stage intercooler for cooling the discharge flowing from the second compressor to the turbocompressor of the turbocharger.

22. (Currently Amended) A motor vehicle propulsion system, comprising:

a) an engine system including:

i. ~~at least~~ a first transfer volumetric device~~, and a~~ fed from a compressor or from a turbocompressor, for sequentially transferring controlled volumes of a compressed fluid such that the pressure of said compressed fluid introduced to and exiting said first volumetric device is substantially equal, wherein said first transfer volumetric device is operable to prevent backflow of each of said controlled volumes;

ii. at least one second volumetric device ~~in which said second volumetric device is~~ larger in volume than said first volumetric device, ~~in which,~~

iii. a heat source disposed between said first volumetric device and said at least one second volumetric device such that each of said second volumetric devices receives heated fluid from a corresponding heat source,

wherein said first transfer volumetric device is operable to prevent backflow of said heated fluid,

wherein, during continuous flow of ~~a compressible~~ said compressed fluid from said first to each of said second volumetric devices, work is performed;

iv. means for driving said first volumetric device for sequentially transferring controlled volumes of said fluid to the corresponding heat source by positive displacement cycles;

~~means for feeding a compressible fluid to said first volumetric device via the corresponding independent flow path;~~

~~a heat source for each independent flow path;~~

~~means for driving said first volumetric device for sequentially transferring controlled volumes of said fluid to the corresponding heat source by positive displacement cycles;~~

~~wherein the second volumetric device receives heated controlled volumes of said fluid from the corresponding heat source via the corresponding independent flow path;~~

v. means for driving said second volumetric device for sequentially discharging said heated controlled volumes of said fluid by positive displacement cycles; and

vi. means for synchronizing said means for driving said first ~~and~~ volumentric device and said at least one second volumetric device; ~~and~~

b) a secondary heater for heating exhaust from said engine system; ~~and~~

c) a third volumetric device rotating about an independent shaft, wherein the discharge from said secondary heater is the working fluid of said third volumetric device, said third volumetric device being adapted to be a torque converter in response to a variable load coupled to said independent shaft, ~~said engine system further comprising~~ and

d) a rotational direction controller of said independent shaft by a valve means which directs said discharge from said secondary heater alternatively to an inlet port and an outlet port of said third volumetric device.

23. (Previously Presented) The motor vehicle propulsion system according to claim 22, further comprising a transmission comprising:

a plurality of coaxial volumetric devices rotatable about the independent shaft;

a plurality of conduits through which the discharge from the secondary heater flows in parallel to each of said plurality of volumetric devices, respectively;

a plurality of selector valves provided with each of said plurality of volumetric devices, respectively, for changing the rotational direction of the independent shaft by directing the flow through a corresponding conduit alternatively between the inlet port and outlet port of the corresponding volumetric device upon actuation of each of said selector valves in unison; and

a plurality of selector valves in communication with each of said conduits, respectively, for selecting through which combination of said plurality of volumetric devices discharge from the secondary combustor will flow,

wherein said motor vehicle propulsion system produces a maximum amount of torque when the discharge from the secondary combustors is directed to all of said plurality of volumetric devices in parallel, a lowered level of torque upon deactivation of at least one of said volumetric devices, and an increased level of torque upon activation of at least an additional one of said volumetric devices.

24. (Currently Amended) The motor vehicle propulsion system according to claim 22, further comprising a bypass valve to serve as an engage and disengage device between ~~the~~ a motor assembly and a torque converter assembly so that the torque converter can be repressed while the motor is operating.

25. (Canceled)

26. (Withdrawn) A turbofan engine system comprising:

an engine system including:

at least a first volumetric device, and a second volumetric device in which said second volumetric device is larger in volume than said first volumetric device, in which, during continuous flow of a compressible fluid from said first to said second volumetric device work is performed;

means for feeding a compressible fluid to said first volumetric device via the corresponding independent flow path;

a heat source for each independent flow path;

means for driving said first volumetric device for sequentially transferring controlled volumes of said fluid to the corresponding heat source by positive displacement cycles;

wherein the second volumetric device receives heated controlled volumes of said fluid from the corresponding heat source via the corresponding independent flow path;

means for driving said second volumetric device for sequentially discharging said heated controlled volumes of said fluid by positive displacement cycles;

means for synchronizing said means for driving said first and second volumetric device;

wherein the first and second volumetric devices are keyed to the same main shaft; and

a compressor keyed to the main shaft;

wherein the compressor is a turbocompressor driven by discharge from the expansion volumetric device and a fan driven by said engine system, said fan generating a crossfan streamline and a main thrust for an aircraft, exhaust from said turbocompressor being discharged to the atmosphere and providing auxiliary thrust in addition to said main thrust.

27. (Withdrawn) A turbojet engine system, comprising:

an engine system including:

at least a first volumetric device, and a second volumetric device in which said second volumetric device is larger in volume than said first volumetric device, in which, during continuous flow of a compressible fluid from said first to said second volumetric device work is performed;

means for feeding a compressible fluid to said first volumetric device via the corresponding independent flow path;

a heat source for each independent flow path;

means for driving said first volumetric device for sequentially transferring controlled volumes of said fluid to the corresponding heat source by positive displacement cycles;

wherein the second volumetric device receives heated controlled volumes of said fluid from the corresponding heat source via the corresponding independent flow path;

means for driving said second volumetric device for sequentially discharging said heated controlled volumes of said fluid by positive displacement cycles;

means for synchronizing said means for driving said first and second volumetric device;

wherein the first and second volumetric devices are keyed to the same main shaft;

a compressor keyed to the main shaft; and

a main combustor generating a gas stream providing a main thrust for an aircraft.

28. (New) A turbofan engine system comprising an engine system according to claim 1, wherein the turbocompressor is driven by discharge from the at least one second volumetric device, and a fan driven by said engine system, said fan generating a crossfan streamline and a main thrust for an aircraft, exhaust from said turbocompressor being discharged to the atmosphere and providing auxiliary thrust in addition to said main thrust.

29. (New) A turbojet engine system, comprising an engine system according to claim 1 and further comprising a main combustor generating a gas stream providing main thrust for an aircraft.